

10 dorsally they are placed in an elliptical, slightly raised area divided by a groove, so that the larva may almost be said to have feet on its back. No spines on joint 13. Shields reduced, the cervical shield large, scarcely chitinous except in a number of irregular brown patches; a slight linear thickening of the cuticle on the posterior edges of joints 3 and 4; anal flap large but uncornified. Skin smooth, yellowish white, unmarked. Tubercles very small, setæ minute. Arrangement normal for the Tineoidea without secondary hairs of any kind. On the thorax i and ii remotely approximate in pairs, iii very small, iv rather large, v below it, vi single on the leg base; on the abdomen i dorsad to ii, remote, ii opposite the edge of the spined area, iii above the spiracle, iv and v approximate, superposed on the upper subventral fold, vi posteriorly on the leg base, vii of three setæ on the anterior leg base, two of them weak and apparently sometimes absent, viii on the inner side of the leg.

—The Recording Secretary exhibited for Mr. A. N. Caudell a copy of the first volume of Kirby's Synonymic Catalogue of Orthoptera, containing the Forficulidæ, Hemimeridæ, Blattidæ, Mantidæ, and Phasmidæ, and presented for Mr. Caudell the following notes:

KIRBY'S CATALOGUE OF ORTHOPTERA.

BY A. N. CAUDELL.

Through the kindness of the author I have just received from the British Museum a copy of the first volume of Kirby's Synonymic Catalogue of Orthoptera. This volume contains the families Forficulidæ, Hemimeridæ, Blattidæ, Mantidæ, and Phasmidæ. The saltatorial families will appear in a second volume.

The general arrangement of this catalogue is the same as that of the Neuroptera, Libellulidæ, Lepidoptera Heterocera, and Lepidoptera Rhaplocera by the same author. This catalogue forms a volume of over 500 pages, is well printed and well bound and the reputation of the author as an orthopterist is a guarantee of the excellency of the contents. However, as is invariably the case of any undertaking of considerable magnitude, there are certain omissions and errors that have crept in. I now desire to correct a few points that I believe to be erroneous, note a few omissions known to me, as well as to offer criticisms on a few points in which I am unable to agree with the author. With one or two exceptions the

following remarks apply only to genera or species found in our own country.

Labidura riparia Pall. The habitat of this species should include localities in the new world. The variety *erythrocephala*, however, is recorded from the West Indies and the author may refer all the new world specimens to that form.

Anisolabis annulipes Luc. *A. bormansi* Scudd., *azteca* Dohrn and probably also *antennata* Kirby should have been quoted as synonyms of this species. Bormans placed *antennata* as synonymous with *azteca*, *bormansi* was established as synonymous with *annulipes* by McNeill, and I have shown *azteca* and *bormansi* to be synonymous. However these are opinions and each worker is at liberty to follow his own belief.

Sphingolabis taeniata Dohrn. *S. linearis* Eschscholtz is quite certainly the same as this and has priority by some years and should take precedence.

Ischnoptera uhleriana Sauss. *I. unicolor* and *lithophila* of Scudder are both synonyms of *uhleriana*, so admitted by their describer.

Temnopteryx virginica Sauss. This is listed as distinct though it has been proved by breeding that it is the female of *Ischnoptera uhleriana*.

Phyllodromia Serv. Though Mr. Kirby knew this to be preoccupied he still uses it as valid, citing *Blattella* and *Liosilpha* as synonyms. This is done, however, as he wrote me, because of lack of time to determine whether *Liosilpha* or *Blattella* should be used in the place of it. The probability is that they may both be retained, depending upon whether or not *germanica* and *pumicata*, their respective types, are congeneric.

Phyllodromia germanica Linn. *Blatta obliquata* Dold. and *Ischnoptera bivittata* Thom. should be placed as synonyms of this species. Instead, the former is omitted altogether and the latter is listed as a distinct species.

Phyllodromia bivittata Serv. I very much doubt the distinctness of this species. It is certainly no more than a variety of *germanica*.

Phyllodromia borealis Sauss. This is, according to Blatchley, the female of *Isch. pennsylvanica* Deg.

Temnopteryx marginata Scudd. This species, which is also a synonym of *I. pennsylvanica*, is omitted from the catalogue.

Temnopteryx major Sauss. This belongs to the genus *Ischnoptera*.

Lobopectera americana Scudd. The original reference is wrongly given, the correct citation being Proc. Davenp. Acad. Nat. Sc., viii, p. 93, pl. ii, fig. 4 (1899).

Pelmatosilpha floridana Walk. Under this species, or at least in the same genus, should come the *Platyzosteira sabaliana* of Scudder, which Kirby locates in the genus *Eurycotis* as a synonym of Walker's *semipicta*. Having the types of both *floridana* and *semipicta* he should be able to properly place them, but Mr. Kirby is surely wrong in generically separating their supposed synonyms *ingens* and *sabaliana*, which are certainly congeneric if not synonymous.*

Tenodera sinensis Linn. This should have North America included in the habitat. It is the type of the newly established genus *Paratenodera*.

Mantis religiosa Linn. Like the above this should have North America included in the habitat.

Stagmomantis carolina Linn. *S. ferox* Sauss., *dimidiata* Sauss., *wheeleri* Thom., and *tolteca* Sauss. should be placed as synonyms of *carolina*.

Oligonyx scudderi Sauss. *O. bollianus* S. & Z., and *Mantis missouriensis* Glover are synonyms of this species. Instead the former is listed as distinct and the latter is omitted from the catalogue.

Thesprotia graminis Scudd. This is certainly not congeneric with *Oligonyx scudderi*, though here placed in the same genus with it.

Pseudosermyle Caud. Though I especially mentioned *P. banksi* as the type when I established this genus Mr. Kirby gives *arbuscula* as the type.

Timema Scudd. This remarkable genus is certainly worthy of subfamily distinction, but Mr. Kirby includes it in the Anisomorphinæ, making no reference to Timeminæ, the subfamily proposed for it.

Aplopus Gray. Kirby uses the amended spelling *Haplopus* and gives *jamaicensis* as the type. But the genus is monotypical, *micropterus* being the only species included under it at the time of its establishment. Therefore, *micropterus* and not *jamaicensis* is the type.

Mr. Kirby retains certain species as valid that I should consider as invalidated through preoccupation. Such, as an example, is *Phoraspis cossidea* Dalm., 1823, described as *Blatta cossidea* and, in my opinion, is preoccupied by *Monastria cossidea* Esch., 1822, also described in the genus *Blatta*.

Appended I give a list of genera and species of Blattidæ apparently not entered in the catalogue. All are described prior to 1896. Some of them may be entered under a misspell-

*Since the above was written, I have proved these forms synonymous by breeding.

ing, as, for example, *Mioblatta fornicata* Sauss., which is entered as *forficata*, throwing it alphabetically from its rightful position and rendering it not readily found in the index. The same is true of *Blatta adversa* Sauss. & Zehn., which is misspelled *advina*.

One paper by J. G. O. Tepper, Tr. Royal Soc., S. Austr., xix, 1895, is apparently unknown to the cataloguer, since none of the contents are entered. This paper contains one new genus and three new species as follows:

Phyllodromia magna, page 19.

Paratemnopteryx zietzii, page 20.

Lepidophora n. gen., page 20.

Lepidophora furcata, page 21.

The following genera and species I cannot find in the catalogue, though they are apparently eligible to entry.

Blatta acutipennis Serv., Hist. Orth., 91 (1839).

Blatta abdomen-nigrum DeGeer, Hist. Ins., iii, 538, pl. xlv, fig. 5 (1773).

Blatta rufa DeGeer, id.

Epilampra conspicua Walk., Cat. Blatt. Brit. Mus., 67 (1868).

Hys Gistel, n. gen., Naturg. des Thierr., 137 (1848).

Hys cruentatus Gistel, id.

Blatta punctata Gistel, id.

Blatta decorata Serv., Hist. Orth., 99 (1839).

Pseudophyllodromia hystrix Sauss., Rev. Zool., xxi, 110 (1869).

Blatta incisa Walk., Cat. Blatt. Brit. Mus., 109 (1868).

Periplaneta parva Tepp., Tr. Royal Soc. S. Austr., xix, 162 (1895).

Periplaneta jungii Tepp., id.

Phyllodromica Fieber, Lotos, iii, 93 (1853).

Blatta pumila Stal, Eug. Resa, 309 (1858).

Epilampra rustica Stal, Öfv. Ak. Forh., xxxiv, No. 10, 34 (1877).

Heterogamia spinipes Fisch., Ent. de la Russ., iv, 74 (1846).

Heterogamia punctata Fisch. id.

Both *spinipes* and *punctata* are mentioned by Fieber, Lotos, iii, 95 (1853), as equaling *Blatta ægyptica* Linn.

Blatta lineolata Dalm., Anal. Ent., 87 (1823).

Macrophyllodromia Sauss. & Zehnt., Biol. Cent.-Amer., Orth., i, 46 (1893).

Temnopteryx marginata Scudd., Rept. U. S. Geol. Surv. Nebr., 251 (1872). This is a synonym of *Ischnoptera pennsylvanica*.

Blatta domicola ———, Risso Hist., v, 210 (———); Fieber, Lotos, iii, 94 (1853).

Blatta asellus Thunb., Mem. l'Acad. Imp. Sc. St. Petersb., x, 227 (1826).

Blatta cinerea Thunb., id., p. 277=*Blatta rufa* DeGeer.

Blatta cylindrica Thunb., id., p. 279.

Blatta gibba Thunb., id., p. 279.

Blatta limbata Thunb., id., p. 278.

Blatta papillosa Thunb., id., p. 275.

Some of these species of Thunberg's may not be blattids, but *B. cinerea* certainly is, for he refers to DeGeer's figure in the description.

The following species, all referred to before 1800 and after 1758, I do not find in the catalogue. Some of them may not be Blattidæ. All the references have been verified except those preceded by an asterisk.

Blatta alba Ström., Nye Saml. K. Danske Skrifter, ii, 66 (1783).

**Blatta anelytra* Schranck, Beytr. Naturg., 73 (1776).

**Blatta daurica* Beckm. Laxmann's Sibir. Briefe, 48 (1769).

**Blatta heteroceros* Licht., Cat. Rerum. Nat., iii, 95 (1796). (MS. name very probably.)

**Blatta ingens* Licht., Cat. Rerum Nat., iii, 95 (1796). (MS. name very probably).

**Blatta longicornis* Licht., Cat. Rerum Nat., iii, 95 (1796). (MS. name very probably.)

Blatta longipalpi Fabr., Ent. Syst., Supp., 185 (1798).

Blatta palliata Fabr., Ent. Syst., Supp., 186 (1798).

Blatta reticulata Fabr., Ent. Syst., Supp., 186 (1798).

Blatta obliquata Daldorf, Skr. Nat. Selsk., ii (2), 164 (1793). This according to the describer equals *Blatta germanica* Linn.

Blatta ocellata Gmelin, Linn. Syst. Nat., xiii, i, 2047 (1789).

Blatta punctulata Gmelin, id.

Ocellata and *punctulata* have the reference "Mus. Sesk., p. 47, Nos. 7 & 8.

Blatta ruficollis Fabr., Mant. Ins., i, 226 (1787).

**Blatta transfuga* Brünnich, in Pontoppidan's Kurzg. Nachr. Naturhist. Dannemark, 212 (1765).

Mr. Burke exhibited specimens, drawings and different stages in the work of the various insects which cause the "black check" of the western hemlock (*Tsuga heterophylla*). The primary injury is made by a member of the family Scolytidæ, the hemlock barkbeetle (*Hylesinus* sp.), while the real injury to the lumber is caused by a rat-tailed maggot, the